

Saturday Magazine.

N^o 602. NOVEMBER

20TH, 1841.

PRICE
ONE PENNY.



NAKSHI-ROUSTAM, OR THE MOUNTAIN OF SEPULCHRES.



MOUNTAIN OF SEPULCHRES.

THE extensive ruins of Persepolis, together with the mention made of that city by Greek writers, are sufficient to convince us that it was one of the most important cities in ancient Persia; and yet, owing apparently to its never having been the residence of the Persian kings, we meet with little to elucidate its history, or to satisfy the curiosity which is naturally excited by its magnificent and interesting remains.

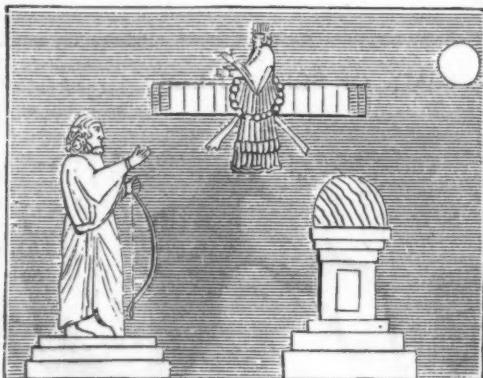
Independently of the objects of attraction presented by the site of the city itself, there is a curious specimen of the ancient grandeur of the Persians, situated to the north of Persepolis, and called NAKSHI-ROUSTAM, or the MOUNTAIN OF SEPULCHRES. This mountain abounds in sculptures and excavations, which have long excited the attention of the traveller, the artist, and the antiquary: it rises to an elevation of about three hundred yards, and is composed of a whitish kind of marble, in which the figures and excavations have been cut. At the upper part of the mountain are four excavations which seem intended for tombs. Sir Robert Ker Porter says they are "evidently of a date coeval with the splendour of Persepolis."

The external appearance of the four sepulchres is similar, and their internal structure probably presents no variety. The excavation examined by Sir Robert Ker Porter is cut about fourteen feet into the solid rock, somewhat in the form of a Greek cross: the upright division of it cannot be less than a hundred feet from end to end. The front of the tomb is ornamented with four round pilasters, distant from each other about seven feet, and as far from the caverned sides of the excavation: their

bases terminate by a tor on a plinth, projecting from the face of the tomb one foot six inches: their shafts are crowned by double bulls. An additional capital (composed of three square stones piled on each other, the smallest and lowest fitting into the cavity between the bulls' necks, with the largest stone at the top) supports a plain architrave. The entrance is between the two centre pilasters: the door frame is finely proportioned, with a carved projecting architrave nicely fluted and divided into leaves: but the greater part of the apparent door is only marked to resemble one; the actual entrance being comprised within a square space of four feet six inches.

The division above the front of the tomb is an excavation containing sculptured figures, and is made to resemble a sort of framework for the purpose of inclosing them. The figures are represented with their hands raised, and supporting two beautifully friezed cornices. The drapery of these figures is a short tunic; the waists of some are bound with a simple belt, and of others with a dagger hanging therefrom on the right hip; all are bare-headed, but the bushy appearance of the hair makes it resemble a wig. These figures, together with the cornices they support, form the face of a sort of elevated platform, something like the flat table-tombs of England; but the dimensions are very different. Each side of the structure is finished by a pillar of extraordinary shape. If it be divided into four parts,—the base resembles an urn, on which rests the huge paw and limb of a lion descending from the columnar part of the pillar, which is fluted horizontally half-way up; and from

its summit there issues the head and shoulders of the unicorn-bull, but without ornaments. The back of the neck unites it with the highest cornice, which forms the top of the structure; so that the heads of the two bulls which form the pillars at each end, rise higher than the plane they support. On this plane stands the group shewn in the accompanying illustration. A figure (most



probably representing the *archimagus*, or high-priest,) is elevated on a pedestal of three steps: he is dressed in an ample robe flowing down to his ankles; his left hand grasps a strung bow; his right arm is half extended with the hand quite open; his wrists are ornamented with bracelets; his head is bare, the hair bushy behind and neatly curled; his beard falls to the breast: opposite to him rises another pedestal of three steps upon which is placed an altar, probably containing the sacred fire, a huge flame of which appears at the top. High over it to the right, is a globular figure representing the sun, of which the fire below was esteemed the offspring and the emblem. These altars always stood towards the east, so that the worshipper might face the point of the horizon whence the great source of light ascended; and we here find the orb in such a direction. Another figure floats aloft in the air, between the altar and the archimagus, appearing as if it had issued from the sun; it approaches the man from that point. This aerial personage seems supported by something like a collection of sun-beams, thickly carved in waving, horizontal, and perpendicular lines, interspersed with several divisions of narrow cloud-shaped masses of stone. The radiation is not circular, but forms three distinct collections of rays, pointing east, west, and downwards; they diverge from a ring or halo, out of the midst of which rises the figure; it being entirely above this "beam'y chariot," from the waist upwards. It is dressed in a similar robe to that of the priest, with the hair and beard in the same fashion: but the head is covered with a fluted crown; the left hand holds a large and massy ring; the right is elevated and open, as if in the act of admonition; a couple of bands, apparently the ends of his girdle, flow down through the circle, and the beams in which the figure appears, thus proving the aerial texture of the seeming vehicle. "But when we compare its forms, and the workmanship of its details, and its position with regard to its occupier, with the wings and finely-wrought feathers of the bas-relief at Pasargadæ*, we can be in no doubt," says Sir Robert Ker Porter, "from the entire difference between them, that the radii we have been describing, form a means of passing through the air totally distinct from the personage that uses it."

The monumental elevation of which we are speaking, with its altar and other appendages, is comprised within a square frame of stone. On the four external surfaces at the front and the sides, our distinguished traveller found figures three deep, stationed one above the other;

those to the right of the altar, and with their faces towards the back of the man on the pedestal, are clothed in robes similar to his: and they have bonnets on their wig-like hair, resembling in shape the crown on the head of the aerial being, but with this difference, that they are not fluted; these figures are armed with spears; there are three of them in a perpendicular line on the front of the western aspect of the frame; and six rank and file on the side. In the opposite direction, on that part of the frame which is to the left of the altar, in the front is a perpendicular line three deep, of figures in precisely the same sort of dress as the spearmen, excepting that they are quite unarmed. These also look towards the altar, and appear as mourners; their left hands being raised to their faces, and holding a part of their garments, as if to wipe away their tears. Another line of figures is sculptured on the side of the frame, of which the mourning figures form the front; but here only one in three is in a weeping attitude.

To penetrate into the interior of the tombs was a work of no little personal danger as well as fatigue. The only means by which a stranger to these heights could reach them was by attaching a rope to his waist, and suffering some strong arms above to haul him upwards.

My mehmendar was at his stories and forebodings again, (says our traveller,) for tempting such dæmon-wrought places. But the peasantry of this district seemed to know better than to have fear of either deev or difficulty; and one of them more active and sinewy than the rest, managed to scramble up the perpendicular cliff, like a rat hanging by a wall; and gaining the ledge of the platform, or vestibule to the tomb, he lowered down a rope, by which some of his nimble companions assisted themselves in ascending. I followed the example by fastening the rope round my waist, and by their united exertions was speedily drawn up to the place of rendezvous. The distance was sufficiently high from the ground to give me time for thought; and during my ascent, in a manner so totally dependent on the dexterity of others, I could not but recollect the fate of half a dozen kinsmen of Darius Hystaspes, who had all perished at once in the very same expedition. Ctesias relates, that this great Persian monarch 'caused a tomb to be dug for him while he yet lived, in the double mountain; but when it was completed, the Chaldean soothsayers forbade him to enter it during his life, under a penalty of some terrible danger. Darius was intimidated; but some princes of his family could not resist a strong curiosity which impelled them to view its interior. They went to the mountain, and by their desire were to be drawn up by the priests who officiated there; but in the act, while they yet hung between earth and air, the sudden appearance of some serpents on the rock so terrified the people above, that they let go the ropes, and the princes were dashed to pieces.' On this very spot, more than two thousand years ago, the catastrophe happened. Certainly being in any noted place, has a most amazing power in bringing two far distant points of time to meet; at least in the mind that contemplates them. I should have read the history of this disaster at home with almost as little concern as if the people had never existed; here I was on the spot where it happened, and the scene was realized; the persons seemed present with me, and I shuddered for them, while I rejoiced in my own safety. To incur the least possible danger to myself and my assistants, I had selected the tomb that was nearest the ground; but even that was upwards of sixty feet above its level; and I came off with not a few bruises, from hard knocks against the rock, in my swinging ascent.

After this perilous ascent our traveller made his way through a low and narrow entrance into a vaulted chamber, completely blackened all over by smoke of some kind, either from lamps or other fires: the place was stifling and gloomy; at its farther extremity were three arched recesses: each contained a trough-like cavity cut down into the rock, and covered with a stone of corresponding dimensions. Every one of these covers had been broken near the corners, evidently to give a view of the contents of the sarcophagus. A light was introduced into the recesses, by which the remotest cranny was seen, and all were found to be alike empty: not even any loose dust was present that might have formerly

* See the account of a remarkable Persian idol, in No. 514 of the Saturday Magazine.

belonged to some mouldered inhabitant. If these covers were at any time ever removed, they must have been very carefully replaced. The open space of the chamber between the catacombs and the door is about five feet; the entrance had been originally closed by a block or blocks of stone, the deep holes being visible on each side which received their pivots:—

I observed, (says our traveller,) some vestiges within, of the mode of hanging so ponderous a security; but the avidity of the spoilers for lead and iron has injured every part where the objects of their cupidity could be rent away. The surface of the door, as it appears without, is divided into four compartments; the lower one is entirely taken away, being now quite open to the air, with a small part also of the second division broken off, which probably happened when the passage was forced. When we look on these violences, committed on the last resting-places of the great, we cannot but be sensible that the humblest graves are the securest.

EVERY charity school for the instruction of the poor in the principles of our Church, and for their discipline in habits of industry and godliness, is to be considered as one of the bulwarks of our country; as fortress, which it would be madness not to keep in repair; as a monument of the zeal and piety of our forefathers, which cannot, without sacrilegious neglect, be suffered to decay.—LE BAS.

WHAT IS HONEY-DEW?

In the summer months, when the weather is hot and dry, the foliage of trees and plants is often found covered with and rendered glossy by a sweet clammy substance known to persons resident in the country by the name of *honey-dew*; they regard it as a sweet substance falling from the atmosphere. The production of this substance has led to as many conjectures as that of Blight, notice in a former article. Dr. Mason Good says:—

I have seen a hop-ground completely over-run and desolated by the *Aphis humuli*, or hop green-louse, within twelve hours after a honey-dew (which is a peculiar haze or mist loaded with poisonous miasm) has slowly swept through the plantation, and stimulated the leaves of the hop to the morbid secretion of a saccharine and viscid juice, which, while it destroys the young shoots by exhaustion, renders them a favourite resort for this insect, and a cherishing nidus for myriads of little dots that are its eggs. The latter are hatched within eight and forty hours after their deposit, and succeeded by hosts of other insects of the same kind.

It has often happened to writers on natural history, that, while they successfully oppose those prejudices of opinion or vulgar errors which, from being constantly admitted without dispute, have obtained the strong hold of habit on the mind, yet fall into other prejudices, namely, those of sense or personal observation, and thus explode one error by the introduction of another which is more dangerous than the first because it receives the support of a learned man. Sir John Herschel says:—

Our resistance against the destruction of the other class of prejudices, those of sense, is commonly more violent at first, but less persistent, than in the case of those of opinion. Not to trust the evidence of our senses, seems, indeed, a hard condition, and one which, if proposed, none would comply with. But it is not the direct evidence of our senses that we are in any case called upon to reject, but only the erroneous judgments we unconsciously form from them, and this only when they can be shown to be so *by counter-evidence of the same sort*; when one sense is brought to testify against another, for instance, or the same sense against itself, and the obvious conclusions in the two cases disagree, so as to compel us to acknowledge that one or other must be wrong.

The short extract we have given from Dr. Good, contains several prejudices both of opinion and of sense. The entomologist is peculiarly liable to error, not only from the minuteness of the objects observed, but from the difficulty which often exists of distinguishing between a cause and an effect. The following details will enable the reader to trace to their source the errors contained

in the quotation, and to furnish an answer to the question, "What is honey-dew?"

During summer, if we examine almost any species of plant, an immense number of small insects will be found placed side by side, in large masses, upon the stalks and leaves. These insects are called *APHIDES*, *puceros*, or *plant-lice*. The history of these little animals has been written with great care by some of the most celebrated naturalists; and many truly remarkable details have been supplied, which are too well authenticated to admit of dispute. But as the nature of these details renders them unfit for our pages, we pass on to the more immediate subject of the present article.

The aphides on the leaves or stems of trees appear to be in a state of total inaction; but they are in fact busily occupied in extracting the juices of the plant with their proboscis. Their punctures frequently cause sensible alterations and damage to the leaves, and even to the stems of trees, which become bent and contorted on the side attacked by the insects.

The curvings thus effected, (says Mr. Rennie,) become very advantageous to the insects, for the leaves, sprouting from the twig, which naturally grow at a distance from each other, are brought close together in a bunch, forming a kind of nosegay, that conceals all the contour of the sprig, as well as the insects which are embowered under it, protecting them against the rain and the sun, and at the same time hiding them from observation. It is only requisite, however, wherever they have formed bowers of this description, to raise the leaves, in order to see the little colony of the aphides, or the remains of those habitations which they have abandoned. We have sometimes observed sprigs of the lime tree, of a thumb's thickness, portions of which resembled spiral screws, but we could not certainly have assigned the true cause for this twisting, had we not been acquainted with the manner in which aphides contort the young shoots of this tree.

The leaves of gooseberry, currant bushes, apple trees, &c., are often seen covered with tuberosities; and on examining the under side of the leaf, a crowd of small insects will be seen feeding on the juices of the leaf and shielded from the weather and many of their enemies. On the leaves of the elm, the aphides produce vesicles, or hollow galls of about the size of a walnut and sometimes larger, within which a whole colony resides and the female deposits her eggs.

Most of the aphides are covered more or less with a cotton-like down. In those which infest the plum-tree and the cabbage this covering resembles flour. Those which live in the vesicles of the elm are entirely covered with this substance. In the aphides of the poplar it is in the form of cotton threads; but it exists in largest quantity on the aphides of the beech tree, on which species the threads are sometimes an inch in length; they are but slightly attached, and may easily be removed.

Were it not that the aphides are frequently exposed to the attacks of powerful enemies, it is probable that they would multiply to such an extent as totally to destroy the plants whose juices they suck. The various species of lady-birds, both in the larva and perfect state, feed entirely on aphides. They place their eggs on a leaf where aphides abound, and when the young are hatched they find themselves surrounded by their prey. The larvæ of many species of two-winged flies (*Syrphidae*) also commit great havoc among the aphides. Mr. Kirby, in speaking of one of these larvæ, says:—

When disposed to feed he fixes himself by his tail, and being blind, gropes about on every side, as the Cyclops did for Ulysses and his companions, till he touches one, which he immediately transfixes with his trident, elevates into the air, that he may not be disturbed with its struggles, and soon devours. The havoc which these grubs make amongst the aphides is astonishing.

The larvæ of the lace-winged flies are such enemies to the aphides, that Reaumur called them "the lions of the aphides." The horticulturist removes large numbers of these destroyers of vegetables by means of a moistened

brush, or by burning sulphur or tobacco and conducting the vapours or the smoke by means of a bellows or a funnel to the parts affected.

So vast and so rapid is the increase of aphides, and so constantly are they engaged in sucking the juices of plants, that the reader need not be startled with the assurance that these little insects are the sole cause of the honey-dew which is often found so abundantly on the foliage of plants during summer. This fact is now established by the repeated observations of eminent naturalists; but for the sake of brevity, we propose to follow the details of Mr. Curtis on this curious subject.

Were a person accidentally to take up a book in which it was gravely asserted that in some countries there were animals that ejected from their bodies liquid sugar, he would soon lay it down, regarding it as a fabulous tale calculated to impose on the credulity of the ignorant; and yet such is literally the truth. The superior size of the *Aphis salicis* will enable the most common observer to satisfy himself on this head. On looking steadfastly for a few minutes on a group of these insects, while feeding on the bark of the willow, one perceives a few of them elevate their bodies, and a transparent substance is evidently ejected from the two horns which the aphides have at the hinder part of the body: this is immediately followed by a similar motion and discharge, like a small shower, from a great number of others.

On placing a piece of writing paper under a mass of these insects, it soon became thickly spotted. Holding it a longer time the spots united, from the addition of others, and the whole surface assumed a glossy appearance. I tasted this substance, and found it as sweet as sugar. I had the less hesitation in doing this, as I had observed that wasps, flies, ants, and insects without number, devoured it as quickly as it was produced: but were it not for these it might no doubt be collected in considerable quantities, and if subjected to the processes used with other saccharine juices, might be converted into the choicest sugar or sugar-candy.—CURTIS.

The aphides produce this substance in so large a quantity that the vesicles of the elm and the tuberosities of the gooseberry and currant-bushes often contain globules as large as a pea. It is at first limpid and transparent, but becomes thick by exposure to the air.

The origin of honey-dew is now completely established; but as the notion that this substance is formed in the atmosphere is still a favourite mode of accounting for its production, we will say a few words on the subject: and we may also notice another opinion, that honey-dew is an exudation from the plant itself.

If honey-dew fell from the atmosphere it would cover everything indiscriminately: whereas it is never found except on certain living trees and plants. It is also found on plants confined within hot-houses and green-houses. It is found more abundantly on healthy than on sickly trees, because the aphides select only the youngest and most healthy shoots. If the honey-dew exuded from the plant, it would present certain general and uniform appearances on all the leaves; but its appearance is very irregular, not being alike on any two leaves, some leaves having none of it, and others being only partially covered. Mr. Murray, who ascribes honey-dew to an electric change in the air, opposes the now received opinion of its production by aphides, on the ground that the substance "was very abundant on those plants that were entirely free from aphides;" but these little insects are very likely to escape notice unless we look in the right place: they are careful to eject the honey-dew to a distance from where they may be feeding. The source of the honey-dew on certain leaves must often be looked for in the leaves above, in the under surfaces of which myriads of aphides may lie hid. If anything should intervene between the aphides and the leaf next between them, there will be no honey-dew on that leaf.

Mr. Curtis has noticed, that where the saccharine substance has dropped from the aphides for a length of

time, as from the *Aphis salicis* in particular, it gives to the surface of the bark, foliage, or whatever it has dropped on, that sooty kind of appearance which arises from the explosion of gunpowder, which greatly disfigures the foliage, &c., of plants. It is often mistaken for a kind of black mildew, which it greatly resembles.

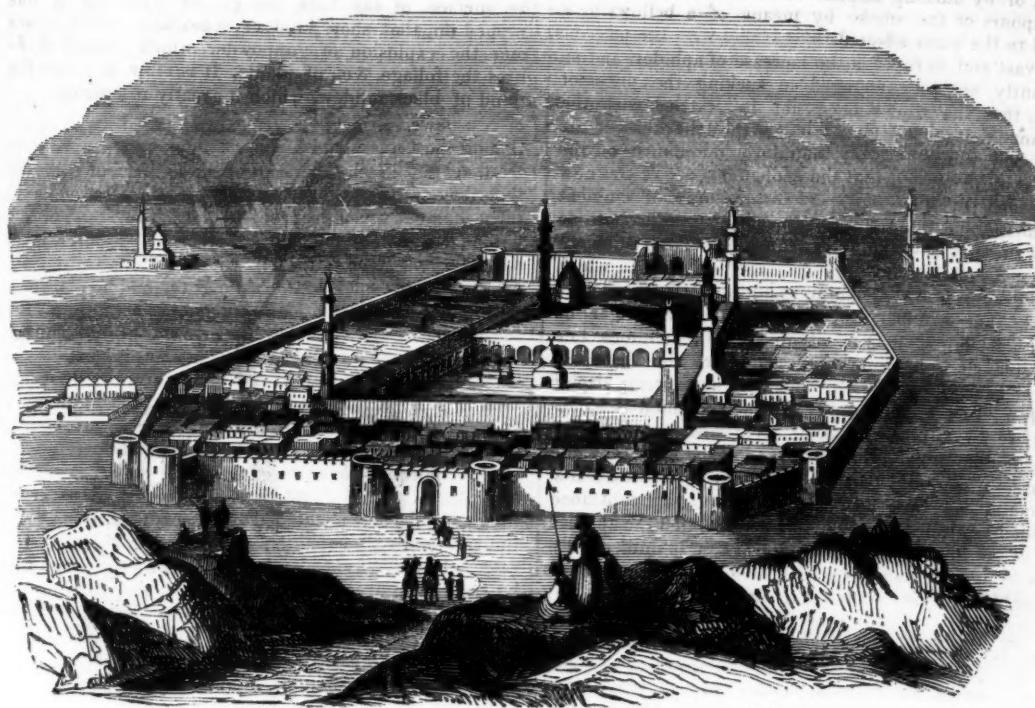


A BLIGHTED BRANCH.

TRULY it is difficult, in passing along the countries of which I am speaking (the neighbourhood of the Rhone), if we will but use our eyes at all, not to be forced to confess the irresistible and abundantly sufficient power of the agencies in daily operation to explain the dissolution which everything on the earth is undergoing. This progress may indeed be called slow in comparison to the quick march of our petty span of life; but the wear and tear of the mountains, and their final extinction, is no less a matter of physical fact than our own mortality is. It cannot, indeed, be denied that the Alps and Andes are longer-lived than we,—but even their age,—that of the hoariest-headed peak among them, Mont Blanc or Chimborazo, or the blushing Monte Rosa,—is really but an instant of time—a mere fraction—an infinitesimal moment—single beat of the great clock of time, to say nothing of eternity! It is just the same when we come to speak of distances, since our longest stretch on earth, "from China to Peru," from "Indus to the Pole," or even our longest measurable spaces in the heavens, the aphelion of our most eccentric comet, lying millions of millions of miles beyond the orbit of Uranus,—what are they but insignificant portions of space, mere hair-breadths in the vast scale of even the visible or conceivable parts of astronomy?

To some minds these speculations, or, to speak more properly, these absolute certainties, are sources of pain and bewilderment rather than of pleasure. But it appears to me that, if well conducted, they are adapted to do good, by rendering us more contented with our lot, and more earnest in the performance of our duty, by filling our lives with more lofty and more cheerful objects of pursuit. It is surely a delightful reflection, and one filled with the brightest hopes, that, insignificant as we are, we are still capable of seeing and understanding so much of these things, and that we are permitted to reason upon them to a great extent, though we can see neither their beginning nor their end, nor can we interrogate their purpose. When rightly employed such speculations give, if anything on earth can, a foretaste of immortality, and tell, both to the reason and to the imagination, that the soul is not perishable: and thus, all such pursuits as geology and astronomy, properly carried on, do essentially contribute to fortify our faith in Revelation, by inculcating, or as it were enforcing the grand doctrine of dependence, and making us feel, at every turn, how powerless we are, and how powerful is our Maker, and yet how beneficent, and, above all, how uniform and how admirably consistent in all his operations.—CAPTAIN BASIL HALL.

TURKEY AND THE TURKISH PROVINCES.



MEDINA, THE BURIAL-PLACE OF MOHAMMED

HAVING already given a brief account of Mecca, we proceed to offer a similar notice of Medina, which is also one of the holy places of the Mohammedans. It may be well to glance at the geographical position of Medina, with respect to surrounding places.

In following the course of the Mediterranean from west to east, our progress is finally arrested by the coast of Syria, which forms its eastern termination; and at the southern corner of this coast, forming the south-eastern extremity or corner of the Mediterranean, we meet with a spot which is a boundary between Syria, Arabia, and Egypt, and also an isthmus of separation between the Mediterranean and Red Seas. From this isthmus the Red Sea extends, nearly in a south-eastern direction, for a distance of two thousand miles, till it joins the Indian Ocean. The coast then trends round towards the north-east, till we arrive at the entrance of the Persian Gulf, up which we ascend nearly in a parallel direction to the Red Sea. Now all the immense country bounded by these coasts,—the Red Sea on the west, the Indian Ocean on the south, and the Persian Gulf on the east, comprising an extent of territory more than three times as large as that of France,—is known by the general name of Arabia.

It is towards the western coast of this large peninsula that we must look for the city of Medina. It lies at a few days' journey from the coast (estimated, as "days' journeys" are in the East, by the rate of a camel's progress,) at about one third of the length of the Red Sea from its upper end, that is, about twice as far from the Straits of Bab-el-Mandeb on the south, as from the Isthmus of Suez on the north. On the western shore of the Red Sea, opposite Medina, we meet with the sandy desert which separates that sea from the fertile valley of the Nile; and eastward of Medina, we likewise meet with sandy deserts, so that were it not for the intervention of the Red Sea, the town would seem to be in the heart of a desert. We now proceed to speak of the town itself, and its inhabitants.

Medina (the ancient *Yathreb*), although the place of burial of the prophet Mohammed, is neither so cele-

bated as Mecca, nor is it considered so much an act of duty to make pilgrimages thither. A considerable number, however, of those who have gone through all the ceremonies and observances at Mecca which are necessary for their attainment of the title of *hajjis*, usually join the Syrian caravan, or form themselves into small detachments, in order to visit the tomb of their prophet. The distance between these two cities is about two hundred and seventy miles; and the time occupied by the journey is ten or eleven days, during which the pilgrims must be content to undergo many inconveniences and dangers; there being no public khan or place of accommodation for travellers through the whole route, and the depredations of Arab robbers being frequent and daring.

The city of Medina is situated on the edge of the Great Arabian Desert. A circle of twelve miles round the place was originally considered as holy ground, in accordance with the strict injunctions of Mohammed himself; but this precept is forgotten or entirely unobserved. The town is tolerably well built; the houses are for the most part two stories high, and entirely of stone. The principal streets are paved; but the rest are poor and narrow, only measuring two or three paces across. The city is surrounded by a wall, and on a small rocky elevation stands the castle, inclosed by a thick stone rampart, between thirty-five and forty feet high, flanked by towers, and defended by a ditch.

Unlike Mecca, the city of Medina is well supplied with water by means of wells and subterraneous canals, which are scattered throughout its extent; and in consequence it is not so entirely bereft of vegetation, or so dependant on other places for its supplies, as the former city. The suburbs extend to the south and west, and occupy a larger space of ground than the city itself, from which they are separated by an open space containing gardens, markets, and a few huts. There are very few public edifices at Medina; and for such as there are, the city is indebted to the Sultans of Egypt and Constantinople.

The inhabitants of Medina are a mixed race, the

greater part of whom derive their origin from foreigners who have been induced to settle in the city, with the hope of acquiring gain, in their traffic with the pilgrims. In the course of a few generations these settlers become Arabs in feature and character. They live in a very poor style, and display much gravity and circumspection in their outward deportment; but they are not more free from vice and immorality than the inhabitants of Mecca; indeed it is notorious that the Mohammedans of these two cities, where we might expect to see the influence of the better part of their religion especially predominant, are more depraved and immoral than those of any other city or country in the world.

The mosque which contains the tomb of Mohammed, and which is the principal means of support of the inhabitants of Medina, is situated towards the eastern extremity of the town. It bears some resemblance to the Temple of Mecca, being an open square, divided by a partition into two compartments, and surrounded on all sides by covered arcades; its dimensions, however, are considerably less, being 165 paces in length, and 130 in breadth. This mosque was greatly improved by the Caliphs, who bestowed on it many generous donations; and after its complete destruction by a fire, occasioned by lightning, when nothing remained but the tomb of the prophet, the restoration of the mosque was undertaken by the Sultan of Egypt, who erected it in its present form, in the year of our Lord 1487. There are five minarets, and four gates to this mosque: the principal entrance is extremely handsome; the sides of the gate being inlaid with marble and glazed tiles of various colours, which give it a dazzling appearance. At this gate the hajjis are obliged to enter when they first arrive at this city of the prophet, and at a fountain immediately in front of it, they are expected to perform their ablutions, ere they advance into the sacred area. In the northern division of the square stands a small building, in which are deposited lamps for the use of the mosque. The situation of the famous sepulchre of the prophet, is indicated in our engraving by the cupola, which surmounts the roof of the mosque, near one of the minarets. To preserve this venerated tomb from the near approach of the devotees, it is surrounded by an enclosure called *El Hejra*, consisting of many columns supporting an arched roof; and these again are encircled by an iron railing thirty feet high, of so close a texture and so thickly interwoven with inscriptions, as effectually to hide the interior. There are several small windows in this iron screen, and at the principal of these the pilgrims offer their devotions. The glimpse which is obtained of the space inclosed by the railing, merely informs the worshipper that a rich curtain is carried round on all sides, resembling that of a bed, and that it is of the same height as the railing itself. The curtain or veil is of silk brocade of various colours, interwoven with silver flowers, and having a band of inscriptions in gold characters, running across the middle, like that of the covering of the Kaaba. Within this curtain no persons are allowed to enter, except those whose peculiar privilege it is to take care of the tomb, and to put on the fresh curtain on the accession of a new Sultan to the throne of Constantinople; for, as in the case of Mecca the splendid covering of the interior of the walls of the Kaaba is provided by the new Sultan, so here, the curtain for the prophet's tomb is received as a donation from the same hand. The remnants of this sacred brocade are sent back to Constantinople, and are used as a covering to the tombs of the sovereigns and princes there.

It is not the tomb of Mohammed alone, which occupies the space within this double inclosure; for there also are deposited the remains of his two friends, Abu Beker and Omar. The three tombs are said to be of plain mason work, covered with precious stuffs; but the accounts of different authors vary considerably as to

their form and position. Lamps are suspended all around the curtain and are kept burning during the night; their number has been extravagantly stated at three thousand; but an eye-witness has declared them to amount to little more than one hundred. The story of the suspension of the prophet's coffin in the air by means of two powerful magnets, appears to have been an invention of the Greeks and Latins. The Moslems are so far from acknowledging themselves the authors of this fable, that they smile at the credulity of foreigners, at having for a moment given credence to the tale.

The visit to the mosque and tomb of Medina is not obligatory on "the faithful;" yet it is thought to be an act highly pleasing to the Almighty, and expiatory of many sins, while it entitles the pilgrim to claim *as a right*, the patronage of the prophet in heaven. So anxious are the inhabitants of Medina to confer importance on their city and on the tomb of their prophet, that they declare one prayer said within sight of the Hejra to be as efficacious as a thousand said in any other place except Mecca; and that whoever repeats forty prayers in this mosque will be saved from the pains of hell-fire after death. These assertions are calculated to attract numbers of poor misguided devotees, who, ignorant of the true and only expiation for sin, or unable clearly to discern it through the cloud of traditions imposed on them by their false prophet, are eagerly seeking to atone for the sins of their past lives, by a toilsome and dangerous pilgrimage, and an empty round of observances, which are little calculated to give peace to the conscience or satisfaction to the mind. Medina is reported to have been the depository of immense treasures in former days; but these accounts are probably much exaggerated; and though in the sanctuary of this mosque the precious things of Hejaz were certainly kept at one time, and formed no doubt a collection of great value, yet we are not to believe implicitly the stories of its vastness and immense extent. Notwithstanding the splendid exterior of the mosque, and the gay colours with which it is decorated, there is no appearance of real riches there at the present day.

It will bear no comparison (says Burckhardt) with the shrine of the most insignificant Catholic saint in Europe, and may serve as a convincing proof, that, whatever may be their superstition and fanaticism, the Moslems are not disposed to make the same pecuniary sacrifices to their religious foundations, as the Popish, or even the Protestant Christians do for theirs.

Medina is, or was lately, under the government and authority of a Turkish commander, who takes the management of the pecuniary affairs of the mosque, and of all other ecclesiastical matters. Next to him in importance is the Cadi; and many of the native Sheiks are held in great respect.

To have no assistance from other minds in resolving doubts, in appeasing scruples, in balancing deliberations, is a very wretched destitution.—DR. JOHNSON.

LINES BY DR. SOUTHEY ON HIS LIBRARY.

My days among the dead are passed,
Around me I behold
Where'er these casual eyes are cast,
The mighty minds of old;
My never-failing friends are they
With whom I commune day by day
With them I take delight in weal,
And seek relief in woe:
And while I understand and feel
How much to them I owe,
My cheeks have often been bedew'd
With tears of thoughtful gratitude,
And from their lessons seek and find
Instruction with an humble mind

OLD ENGLISH NAVIGATORS.

WILLOUGHBY, CHANCELOR, AND BURROUGHS. I.

It is our intention to devote the present and one other paper to the lives of the naval commanders whose names are given above, because they may be called the friends and disciples of the illustrious Cabot, and because their labours were, for the most part, exerted jointly in the prosecution of a very memorable polar voyage.

Sebastian Cabot, as we have already observed (p. 12), was driven to the necessity of soliciting employment from the court of Spain, in consequence of the temporary abandonment of maritime enterprise on the part of the English. It so happened, however, in the year 1553, in the reign of Edward the Sixth, that the merchants of London projected a voyage, having in view to reach, by way of the north and north-east, the opulent and celebrated regions of India and China, and that Cabot was now in London again, having been created grand pilot of England, and constituted "governour of the mysterie and companie of the merchants adventurers for the discoverie of regions, dominions, islands, and places unknownen." The merchants, having consulted with Cabot, resolved upon the expedition, and an association was formed, by which the undertaking was carried on in shares of 25*l.*, so that the sum of 6000*l.* was soon raised, which was expended in the construction and equipment of three vessels fitted for northern and tropical navigation. The youthful monarch favoured the design, and lent his countenance to the undertaking.

As the promoters of this expedition had no doubt of its success, and made sure of reaching the Indian seas by way of the pole, they omitted none of those precautions which were deemed necessary for the safety of vessels navigating the tropical seas,—hence they caused the ships to be sheathed with lead, thinly laid on, in order to defend them from the worms that were found to be destructive to wooden sheathing in warm climates. This is the first account we have of ships coated in England with a metallic substance, though the practice had been long familiar to the Spaniards.

The ships being provisioned for eighteen months, Sir Hugh Willoughby was appointed captain-general of the expedition; Richard Chancelor was made pilot-major of the fleet, and nominated to the command of the "Edward Bonadventure;" and Stephen Burroughs acted as master of Chancelor's vessel.

It was probably owing to his advanced age that Cabot himself did not accompany the expedition, but he drew out a series of instructions, in which the whole conduct to be observed by the officers and crew is carefully laid down. We will here give a slight sketch of these rules, which, though generally good and useful, are not, as the reader will see, perfectly unexceptionable.

Strict attention is enjoined to private conduct and morals: prayers are directed to be read morning and evening on board each ship, either by the chaplain or master, and no "ribaldry or ungodly talk, dicing, carding, tabling, nor other devilish games," are permitted.

All acts tending to a breach of discipline are prohibited, "conspiracies, part-takings, factions, false tales, which be the very seeds and fruits of contention."

The steering of the ship was to be regulated by a council of twelve, the captain having only a double vote. A daily record of the course of navigation was ordered to be taken, together with celestial observations, the aspect of the lands along which they sailed, and any other interesting occurrence. The masters of the different ships were to meet weekly, compare these records, and enter the result into a common ledger.

Various regulations are drawn up for keeping weekly accounts, maintaining the cook-room, and other parts of the ship clean, and preventing any liquor from being spilled upon them.

The mariners were directed to treat the natives of the

countries which they visited with consideration, gentleness, and courtesy; and without any disdain, laughing, or contempt. All fair means were to be used for alluring them on board, where they were to be well-treated and clothed, in order to attract others:—it was intimated that it would be well to intoxicate them, in order to get at their secrets. They were to use great circumspection in their dealings with strangers; and, if invited to dine with any lord or ruler, to go well-armed, and in a posture of defence.

The sailors' uniforms were to be worn only on particular occasions, when it was desirable to show them off "in good array for the advancement and honour of the voyage." They are warned not to be alarmed when they saw the natives of any place dressed in lions' and bears' skins, with long bows and arrows, as this formidable appearance was often assumed merely to inspire terror. The shark and the alligator were probably alluded to, when the sailors were told that there were persons armed with bows, who swam naked, in various seas, havens, and rivers, "desirous of the bodies of men, which they covet for meat," and against whom it was necessary to keep diligent watch night and day.

The principal recommendations for the election of Sir Hugh Willoughby to the supreme direction of the enterprise, seem to have consisted in his high birth, his tall and handsome person, his valour and skill in war, and his heroic disposition: these qualities seem to have been regarded over and above nautical experience, which essential requisite is not even mentioned.

When the ships lay at Greenwich, where the court at that time resided, the mariners received every mark of royal favour, which could cheer and encourage men embarking on a dangerous and important enterprise. King Edward addressed a circular letter to all "kings, princes, rulers, judges, and governors of the earth;"—he spoke of the benefits of universal friendship;—the duty of showing kindness to strangers, and particularly to merchants;—he desired free passage for Sir Hugh Willoughby and the others with him, promising to make a suitable return, whenever the occasion of foreigners visiting England might occur. The ships set sail from Greenwich on the 10th of May, in order to have some fine summer weather before them. The king himself was confined by illness at this time; but the principal courtiers stood at the palace-windows, the rest of the household mounted the towers, while the people in crowds lined the shore. The ships fired their guns, causing the hills and valleys to resound; and "the mariners shouted in such sort that the sky rung with the noise thereof. In short, it was a very triumph."

After stopping a few days at Blackwall, the expedition sailed down to Woolwich and Gravesend, and thence to the coast of Essex, where contrary winds unfortunately detained them till the 23rd. Then, with a favouring gale, they quitted England, and directed their course into the expanse of the German Ocean. Their commander was desirous of touching at the coast of Scotland; but this was rendered impossible by contrary winds, which obliged him also to make frequent changes of course, "traversing and tracing the seas." On the 14th of July they got among the islands which fringe the coast of Norway, and at length arrived at the larger range of the Lofoden Isles, whence they sailed to the large island of Senjan, where, finding themselves ignorant of the relative situations of the islands and the coast, they endeavoured in vain to procure a pilot. As they approached the northern cape of Europe, Sir Hugh assembled the commanders and exhorted them to keep close together; but in case of separation, he appointed a rendezvous at Wardhuys, understood to be the principal port of Finmark. The weather soon became rough in the extreme; and, being obliged to stand out to sea, amid the thick mist of a stormy night, the vessels of Willoughby and Chancelor separated, and never again met.

According to the account of Clement Adams, who was with Chancellor, it appears that, as they were driving before the gale, the admiral loudly and earnestly called upon them to keep close to him; but that he himself carried so much sail, and his vessel was so superior, that Chancellor could not possibly obey the order. The other ship was called the "Bona Confidentia," with which the commander continued his voyage; but was astonished and bewildered at not discovering any symptom of land; whence it appeared that "the land lay not as the globe made mention." The maps of those days were, as we may naturally suppose, exceedingly imperfect; so that, after sailing about in various directions for very many days, towards the pole,—eastward and westward,—and then looking for land towards the south, and having in vain attempted to land at Nova Zembla, they proceeded upon a new tack, and at length saw the coast of Russian Lapland. Here they must have been very near the opening into the White Sea, into which had they entered, they might have reached Archangel, and spent the winter in comfort and security with Chancellor and the others, who had reached that place in safety, as we shall relate in our next article. Unfortunately, however, instead of keeping southward when out at the mouth of Waranger Fiord (or gulf), they sailed away again to the west, in the hope probably of reaching Wardhuys, which they missed, and which was the only point in those immense seas of which they had any distinct knowledge. The coast was naked, uninhabited, and destitute of shelter, except at one point, where they found a shore bold and rocky, but with some good harbours. Here, though it was only the middle of September, they began to feel the premature rigours of a northern season; intense frost, snow, and ice, driving through the air as though it had been the depth of winter. On these desolate shores, therefore, they settled down to wait for the ensuing spring; while reindeer, foxes, Polar bears, and "divers beasts to them unknown, and therefore wonderful," haunted their settlement, as if surprised by the novelty of the fresh tenants of the soil.

Nothing more was heard of Sir Hugh Willoughby and his brave associates, until, a long time after, tidings reached England, that some Russian sailors, as they wandered along these dreary boundaries the year after, had been astonished by the view of two large ships, which they entered, and found the crews all lifeless, to the number of about seventy persons, whom they judged to have perished from cold and hunger. The remains of the unhappy sufferers were found on a barren and uninhabited part of the eastern coast of Lapland, at the mouth of a river called Arzina, not far from the harbour of Kegor. From papers found in the admiral's ship, and especially by the date of his will, it appeared that most of the company of the two ships were alive in January, 1554. They had entered the river on the 18th of September preceding. The journal of Sir Hugh Willoughby contains the following reference to their distressed situation:—

Thus remaining in this haven the space of a week, seeing the yeare fare spent, and also very evil wether, as frost, snowe, and haile, as though it had been the deepe of winter, we thought it best to winter there. Wherefore we sent out three men south-south-west, to search if they could find people; who went three dayes journey, but could find none. After that we sent out other three westward, four dayes journey, which also returned without finding any people. Then sent we three men south-east, three dayes journey, who in like sorte returned without finding of people or any similitude of habitation.

The unhappy fate of Willoughby and these early English navigators is thus finely, but pathetically, alluded to by Thomson:—

Miserable they
Who here entangled in the gathering ice
Take their last look of the descending sun;

While, full of death, and fierce with tenfold frost,
The long long night, incumbent o'er their heads,
Falls horrible. Such was the Briton's fate,
As with first prow, (what have not Britons dared !)
He for the passage sought, attempted since
So much in vain, and seeming to be shut
By jealous Nature with eternal bars.
In these fell regions, in Arzina caught,
And to the stony deep his idle ship
Immediate sealed, he with his hapless crew
Each full exerted at his several task,
Froze into statues; to the cordage glued
The sailor, and the pilot to the helm.

In our next paper we shall pursue the adventures of Chancellor and Burroughs, after their parting from Willoughby

THE LIBRARY.—Heinsius, keeper of the library at Leyden, was mewed up in it all the year long; and that which to thy thinking should have bred a loathing caused in him a greater liking. "I no sooner," saith he, "come into the library, but I bolt the door to me, excluding lust, ambition, avarice, and all such vices, whose nurse is Idleness, and their mother Ignorance, and in the very lap of eternity, amongst so many divine souls, I take my seat with so lofty a spirit and sweet content, that I pity all our great ones and rich men that know not this happiness."—BURTON.

If a man were to apply all his strength directly to a rock or to a box of merchandise, which he wishes to elevate to some point, he might not be able to move it at all; or at least he might not be able to raise it to the required height. But with a lever, or with a wheel and axle, or a pulley, he effects his object with ease. Here he does not actually gain power: he gains the means of *acting upon the resistance by degrees*. It is like taking this rock to pieces, and carrying up the parts separately; and a little reflection must convince us, that when we employ a machine, we exert not only all the force that would be requisite in such a case, if we did not use the machine, but also as much more as is necessary to overcome the friction and weight of that machine. It is a great error to suppose that, by any mechanical device, force can be *generated*, or even augmented. Misled by such a notion, projectors have imagined that they could adjust levers, pendulums, &c., that would act with a power greater than that which they derived from any external source. It is obvious, and should ever be kept in mind, that the *inertia* of matter, in virtue of which, no particle of it ever moves except in obedience to some force impressed upon it, and in proportion to that force, renders all such projects entirely impracticable. Universally, to overcome a resistance, a force must be exerted equal to that resistance; and, as we have already said, if it be exerted through a machine, the force must be absolutely greater than that resistance. But, on the other hand, force is made up of velocity and the quantity of matter; and hence, if the mass to be moved, or the resistance to be overcome be much heavier than the moving power, we equalize them, if we can, by giving to the *resistance a much slower motion than that which the power has*; thus making the greater velocity of the power compensate for its inferior weight or mass. In all these cases, however, time must be lost; and it must be remembered, as a general principle, that whatever advantage is *gained in respect to power is lost in respect to time**. A man with a machine does no more than in the same time he would have done without a machine, provided he could have divided the resistance into separate parts. In many cases, however, this is impossible; and hence we are enabled, by the aid of machines, to effect what, without them, would have been altogether beyond our power.—*Science and the Arts of Industry*.

* Archimedes is said to have boasted, that, if he had a place on which to stand, he would move the earth. Had such a place been furnished him, and had he been able, moreover, to move with the velocity of a cannon ball, it would have taken him a million of years to have shifted the earth only the twenty-seventh hundred thousandth part of an inch.

LONDON:

JOHN WILLIAM PARKER, WEST STRAND.

PUBLISHED IN WEEKLY NUMBERS, PRICE ONE PENNY, AND IN MONTHLY PARTS, PRICE SIXPENCE.

Sold by all Booksellers and News-vendors in the Kingdom.